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EXAMINER

HYDER, G.M. ALI

ART UNIT

PAPER NUMBER

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Detailed Office Action

Claim Rejections under 35 USC §103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 9, 10, 12, 13, 14, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Fujioka et al* (US patent 5,946,523) hereinafter *Fujioka* in view of *Nagase et al*. (US patent 5,752,133) hereinafter *Nagase*.

Regarding claims 1 and 13, *Fujioka* discloses an image forming apparatus (printing apparatus body 10) comprising a pair of stationary side walls (plates 51) arranged in an image forming apparatus body (10) and a plurality of photosensitive drum (photosensitive drum 32) units supported between the stationary side walls (51), wherein each of the photosensitive drum units comprises a drum-holding frame (frame or casing of electrostatic recording unit 24) for holding a photosensitive drum (32), an exposure means-holding frame for holding an exposure means (light emitting diode (LED) array holding frame 36), the exposure means-holding frame (36) being supported on the drum-holding frame (frame or casing of electrostatic recording unit 24).

However, *Fujioka* fails to disclose the exposure means holding frame being supported so as to move in an axial direction of the photosensitive drum relative to the drum-holding frame, and a pressing means for pressing the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum.

In the same field, *Nagase* discloses an image forming apparatus wherein the exposure means holding frame (optical exposure system 12) being supported so as to move in an axial direction of the photosensitive drum (photoreceptor drum 10) relative to the drum-holding frame (cartridge 30), and a pressing means (spring 226) for pressing the exposure means-holding frame (12) from one side toward the other side in the axial direction of the photosensitive drum (10).

It would have been obvious to one of ordinary skill in the art to modify *Fujioka* according to a teaching of *Nagase* in order to achieve high positional accuracy of the LED exposing unit in a simple structure (see the background section of the disclosure of *Nagase*).

Regarding claims 2 and 14, *Nagase* discloses an image forming apparatus according to claim 1 and a photosensitive drum unit according to claim 13 respectively, wherein the pressing means (spring 226) is disposed on one side of the drum-holding frame (frame or casing of electrostatic recording unit 24) so as to press the exposure means- holding frame (36) from one side toward the other side in the axial direction of the photosensitive drum (10).

Regarding claims 9 and 17 *Nagase* discloses an image forming apparatus according to claim 1 and a photosensitive drum unit according to claim 13 respectively, wherein the exposure means is held by the exposure means-holding frame (36) so as to adjust the position thereof in the radial direction relative to the peripheral surface of the photosensitive drum (10).

Regarding claim 10 and 18, *Nagase* discloses an image forming apparatus according to claim 9, and a photosensitive drum unit according to claim 17 wherein both side portions of the exposure means are supported by the exposure means-holding frame via a radial direction position adjusting means (screws 221R and 222R see Fig. 42) capable of adjusting the positions thereof in the radial direction relative to the peripheral surface of the photosensitive drum.

Regarding claims 12 and 20 both *Fujioka* and *Nagase* disclose an image forming apparatus according to claim 1 and a photosensitive drum unit according to claim 13, wherein the exposure means comprises an LED head.

Allowable Subject Matter

Claims 3-8, 11, 15, 16 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding claims 3, the prior art does not disclose or suggest an image forming apparatus including a plurality of photosensitive drum units wherein an exposure unit supported by each of the drum-holding units wherein the exposure unit is aligned with each other by a stationary frame on which the drum-holding unit rests in combination with other claimed features.

Regarding claims 4, 5, 8 or 15, 16, the prior art does not disclose an image forming apparatus according claim 1 or a photosensitive drum unit respectively wherein an exposure means holding frame contains side walls as claimed.

Regarding claims 6 and 7, claims 6 and 7 depend on claim 5 which is allowable as indicated, so claims 6 and 7 are also allowable if written in an independent form.

Regarding claims 11 and 19, the prior art does not disclose or suggest an image forming apparatus according to claim 10 and photosensitive drum unit according claim 18 respectively wherein cylindrical portions are formed on both side ends of the exposure means holding-frame in association with other claim elements as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Response to Applicants Arguments

The Applicant amended independent claims 1 and 13 to include additional limitation of “the exposure means-holding frame being supported on the drum holding frame so as to move in an axial direction of the photosensitive drum relative to drum-holding frame” and pointed out that applied prior art Sasaki and Kimura do not disclose this new feature. It is agreed that the amended claims are not met by Sasaki and Kimura. However, the Applicant’s arguments are moot in view of new grounds of rejections (see above).

THIS ACTION IS MADE FINAL

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to G.M. HYDER whose telephone number is (571)270-3896. The examiner can normally be reached on Monday - Thursday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. In case, you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M Gray/
Supervisory Patent Examiner,
Art Unit 2852

GH 1/11/10